

## **Applications of ion implantation for modification of TiO<sub>2</sub>: A review**

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### **Abstract**

Ion implantation can be successfully used for modification physical-chemical properties of TiO<sub>2</sub>. A review of applications for implanted TiO<sub>2</sub> is presented and demonstrated perspectives in the fields such as magnetic data storage, nano-catalysts and optics. Solid solutions with implanted magnetic ions demonstrated anisotropic ferromagnetism at room temperature. Nanoparticles synthesized in titanium dioxide by implantation with noble metal ions give possibilities to fabricate plasmonic and optical composites. Different parameters and condition of ion implantation technology and realized specific properties of irradiated titanium dioxide observed and discussed. © 2012 Advanced Study Center Co. Ltd.

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